

FIG. 1



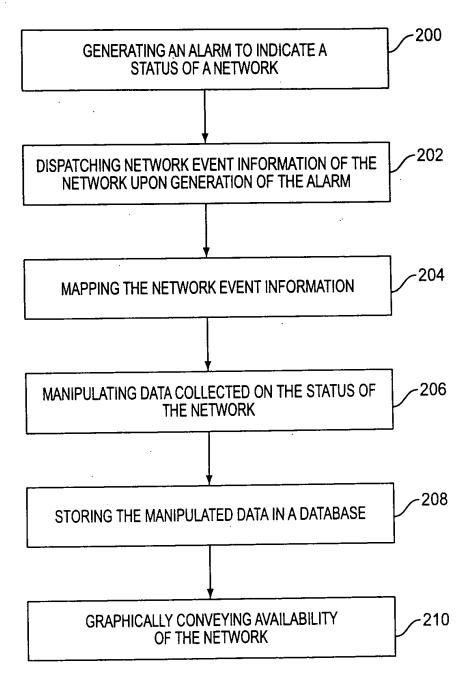


FIG. 2





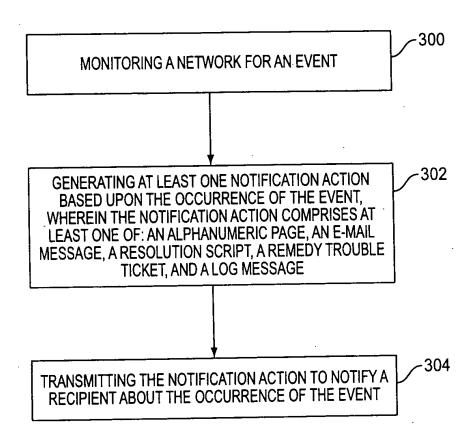


FIG. 3



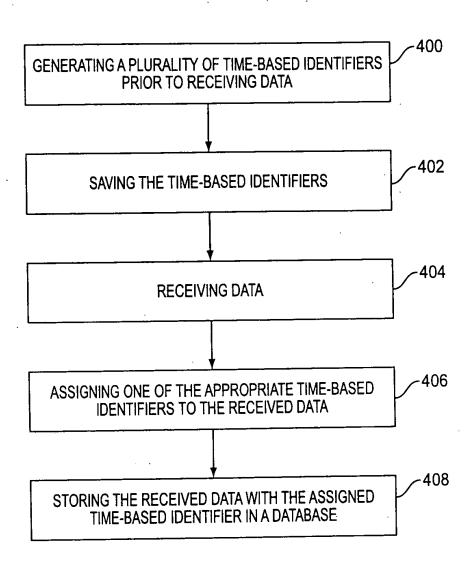


FIG. 4



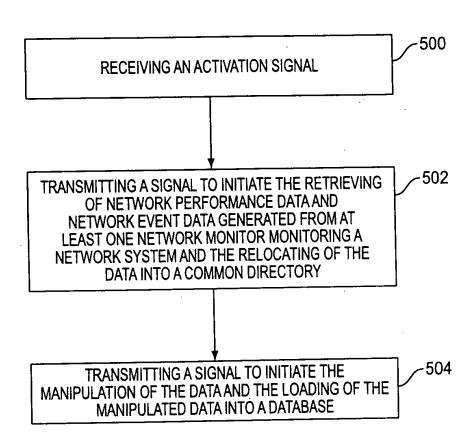
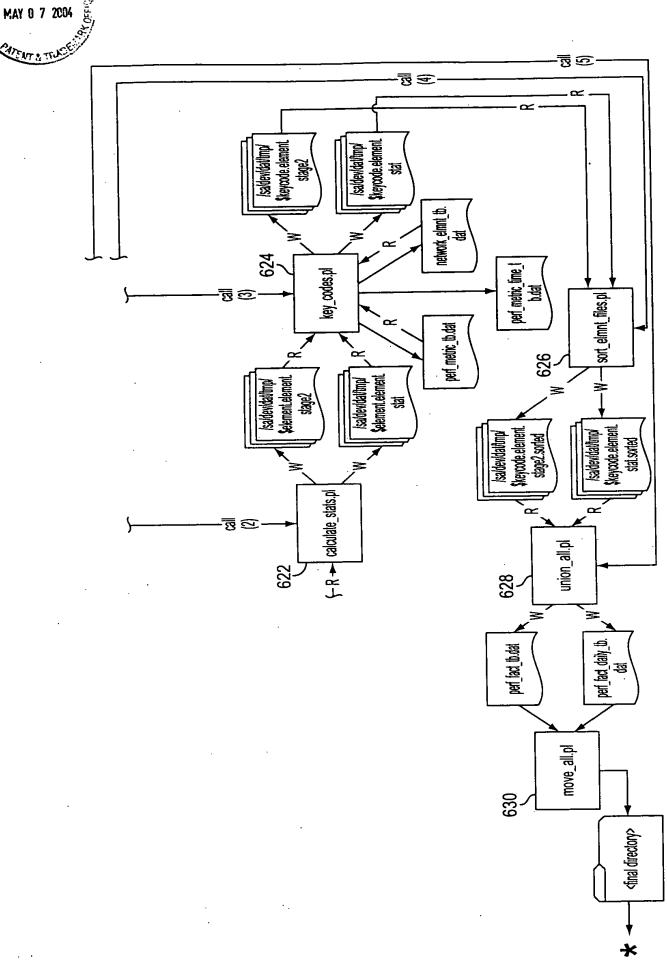


FIG. 5





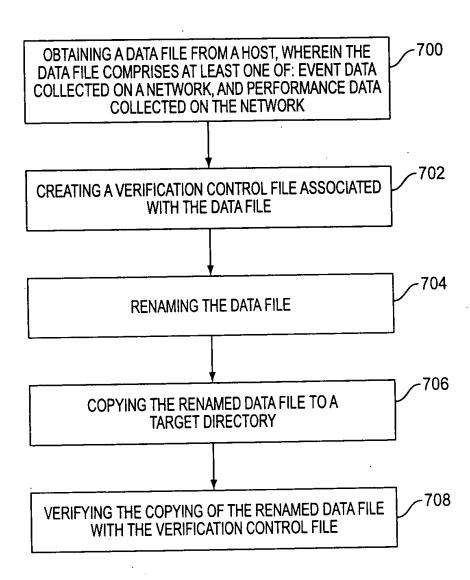
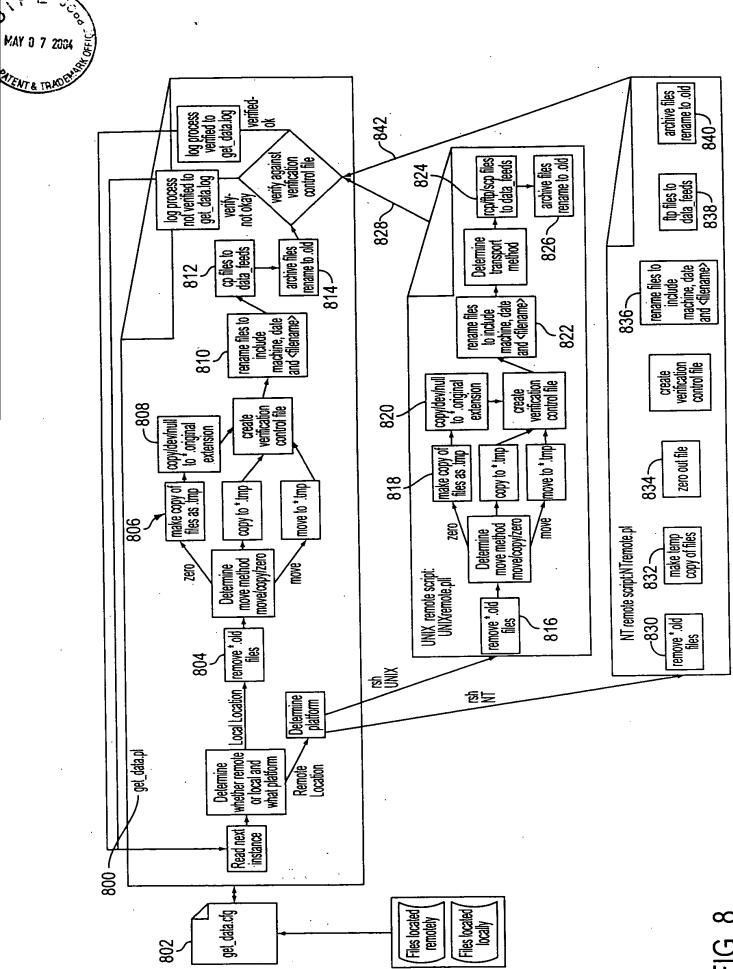
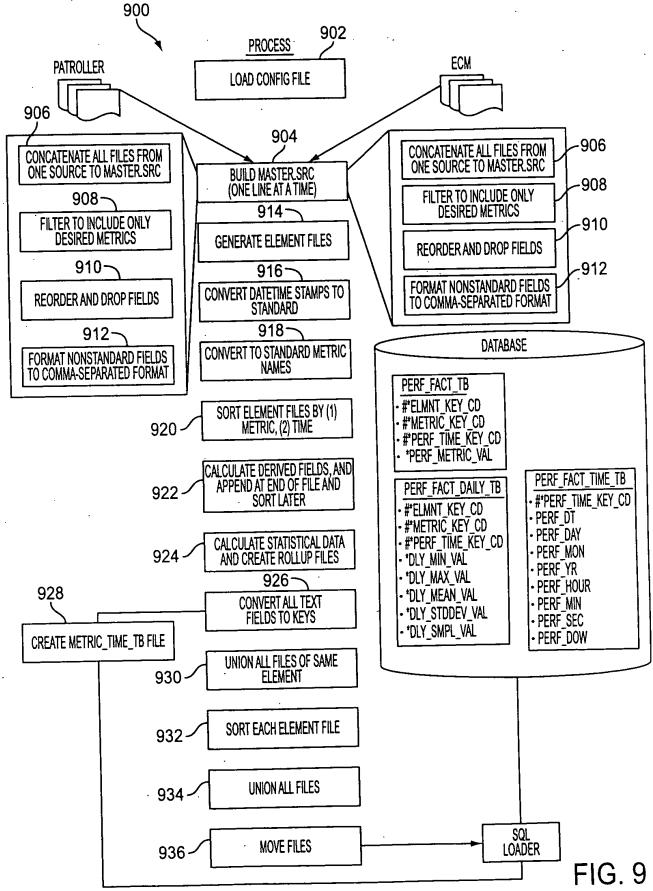


FIG. 7



(PE







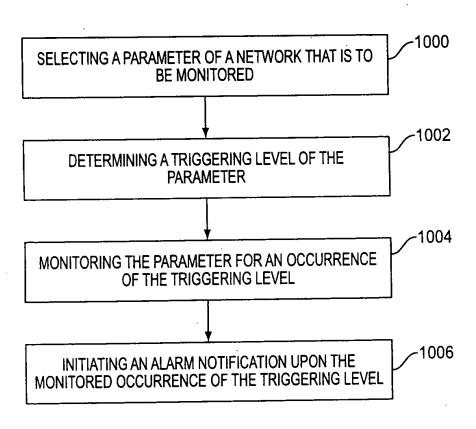


FIG. 10



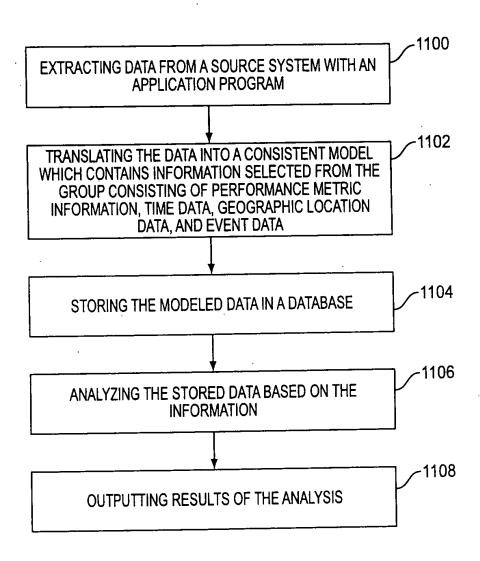


FIG. 11



| ENTITY LOCATION | | | | | · <u>.</u> |
|---|---------------------------------------|---|---|---|---|
| DATABASE ID | IPSA01 | IPSA01 | IPSĄ01 | IPSA01 | IPSA01 |
| OPERATING SYSTEM | | HP-UX 10.2 | HP-UX 10.2 | HP-UX 10.2 | HP-UX 10.2 |
| DATAFILE SIZE OPERATING DATABASE (MB) SYSTEM ID | 100 | 20 | 09 | 20 | 30 |
| DATAFILE | /files5/oradata/IP SA01/IPSA01ipsa | files4/oradata/IP SA01/IPSA01idx 01 dbf | /files1/oradata/IP SA01/IPSA01syst em01.dbf | files3/oradata/IP SA01/IPSA01tmp 01.dbf | ffles2/oradata/IP SA01/IPSA01rbs 01.dbf |
| RELATED TABLESPACES/ RFI ATIONSHIPS | IPSAIDX/Index tablespace | IPSADAT01/data tablespace | ALL | ALL | ALL |
| PHYSICAL | | Index only | | | Contains the 4 rollback segments for the database |
| DEFAULT | On- Line | On- Line | On- Line | On- Line | Oi- Line |
| TABLESPACE | IPSADAT01 | IPSAIDX | SYSTEM | TEMP01 | RBS01 |

FIG. 12



FIG. 13

| TABLE | COLUMN | DATA TYPE | COULMN SIZE | ROW SIZE | SPACE USED/ |
|---------------------|-----------------------------------|------------------------------|-------------|----------|-------------|
| | | <i>.</i> | (BYTES) | (BYTES) | ROW (BYTES) |
| | ELMNT_LOC_CD | Varchar2(5) | 6 | • | |
| | ELMNT_CITY_NM ELMNT_STATE_DBRV | Varchar2(30) Varchar2(2) | 31 3 | 43 | 45 |
| | | Valuata (L) | · | | |
| EVENT_CD_TB | EVENT_CD EVENT_STRING | • | | | |
| | EVENT_AVAIL_TYPE | | | | |
| | EVENT_PAIR | | | 3 | 11 |
| EVENTS_FACT_TB | ELMNT_KEY_CD | Number(10) | 7 | | |
| | PERF_TIME_KEY_CD | Number(10) | 1 . | | |
| • | EVENT_CD EVENT_DURATION | • | | | |
| | EVENT_SEVERITY | | | | · |
| | EVENT_CLASS | | | 17 | 19 |
| NETWORK_ELMNT_TB | ELMNT_KEY_CD | Number(10) | 7 | | |
| | ELMNT_NM ELMNT_TYPE_CD | Varchar2(20) Varchar2(2) | 21 3 | | |
| | ELMNT_VNDR_NM | Varchar2(30) | 31 | | |
| | ELMNT_VNDR_MDL | Varchar2(20) | 21 | | |
| | ELMNT_VAL_DT | Date | 8 | 400 | 400 |
| | ELMNT_LOC_CD | Varchar2(5) | 6 | 100 | 102 |
| PERF_FACT_DAILY_TB | ELMNT_KEY_CD | Number(10) | 7 | | |
| | METRIC_KEY_CD PERF_TIME_KEY_CD | Number(10) Number(10) | 7 | | |
| | DLY_MIN_AMT | (Manipor(10) | , | | |
| | DLY_MAX_AMT | | | | |
| • | DLY_MEAN_AMT | • | | | |
| | DLY_MEDIAN_AMT DLY_STDDEV_AMT | | | 24 | 26 |
| DEDE CACT TR | ELMNT_KEY_CD | Number(10) | 7 | | |
| PERF_FACT_TB | PERF TIME_KEY_CD | Number(10) | 7 | | |
| | METRIC_KEY_CD | Number(10) | 7 | 00 | 44 |
| | PERF_METRIC_VAL | Number(25,5) | 15 | 39 | 41 |
| PERF_METRIC_TB | METRIC_KEY_CD | Number(10) | 7 | | |
| | METRIC_NM METRIC SRC | Varchar2(30) Varchar2(20) | 31 21 | | |
| | METRIC_INS | Varchar2(30) | 31 | | |
| | METRIC_SUB_INS | Varchar2(30) | 31 | 124 | 126 |
| PERF_METRIC_TIME_TE | PERF_TIME_KEY_CD | Number(10) | 7 | | |
| | PERF_DT . | Date | 8 | | |
| | PERF_DAY | Number(2) | 2 2 | | |
| | PERF_MON PERF_YR | Number(2) Number(4) | | | |
| | PERF_HOUR | Number(2) | 3 2 | | |
| | PERF_MIN | Number(2) | 2 | | |
| | PERF_SEC | Number(2) Varchar2(9) | 2 10 | 370 | 372 |
| | PERF_DOW | ValGlat2(३) | | 310 | |

FIG. 14

| | TIME TO LOAD (DIRECT) | TIME TO LOAD (CONVENTIONAL) | NUMBER OF ROWS LOADED | AMOUNT OF DATA (MB) | COMMENTS |
|---------------------------|-----------------------|-----------------------------|--------------------------|------------------------|---|
| EMPTY TABLE | 00:04:32 | 00:30:12 | 1,048,576 | 35 | |
| 1 MIL ROWS IN TABLE | 00:06:29 | 00:32:57 | 1,048,576 | 35 | INDEX WAS 10 MB LARGER FOR CONVENTIONAL LOAD. THIS SUGGEST SOME DEGREE OF FRAGMENTATION OCCURRED DURING LOAD WHICH WOULD REQUIRE WEEKLY INDEX MAINTENANCE |
| EMPTY TABLE | 00.14:49 | 01:31:47 | 3,145,728 | 106 | |
| 2 MIL ROWS IN TABLE | 00:08:49 | 00:35:49 | 1,048,576 | 35 | INDEX WAS 30 MB LARGER FOR CONVENTIONAL LOAD. HIS SUGGEST SOME DEGREE OF FRAGMENTATION OCCURRED DURING LOAD WHICH WOULD REQUIRE WEEKLY INDEX MAINTENANCE |
| EMPTY TABLE | 00:30:10 | 03:05:24 | 6,291,456 | 212 | |
| 3 MIL ROWS IN TABLE | 00:22:52 | 01:33:15 | 3,145,728 | 106 | HAD TO INCREASE THE SIZE OF THE INDEX TABLESPACE IN ORDER FOR THE NEW INDEX AND THE OLD INDEX TO MERGE AT THE END OF DIRECT LOAD. |

FIG. 15



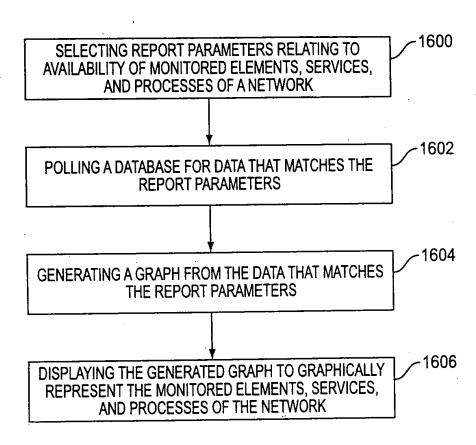


FIG. 16



| Select Metric Class - Netscape Edit View Go Communicator Help | |
|--|---------------------|
| Edit View Go Communicator Help Bookmarks D Location: http://nsmmpe33/cgi-bin/adhoc.pl | ♥ (🗗 What's Related |
| | |
| Adhoc Reporting | |
| | |
| | |
| ease choose a Metric Class | |
| 1/02 | |
| etwork Element Performance Next | |
| etwork Element Performance Next Next Next Next Next Next Next Nex | |
| etwork Element Performance Next ally Rollup Statistics terment Availability verts | |
| etwork Element Performance Next Next Next Next Next Next Next Nex | |
| etwork Element Performance Next alily Rollup Statistics ternent Availability vents ternet Application Performance T Server Performance etwork Element Performance | |
| etwork Element Performance Next Next Next Next Next Next Next Nex | |
| | |

FIG. 17A

| 麥 Performance Charting - Netscape | |
|---|-----------------------|
| File Edit View Go Communicator Help Rollmants & Location: http://nsmmpe33/cgi-bin/adhoc.pl | ▼ (回 What's Related N |
| Network Element Performance | |
| Please choose a report type Network Element Performance | |
| T rend Boxplot V Comparison Boxplot Detail XY Line Graph Trend Boxplot | |

FIG. 17B

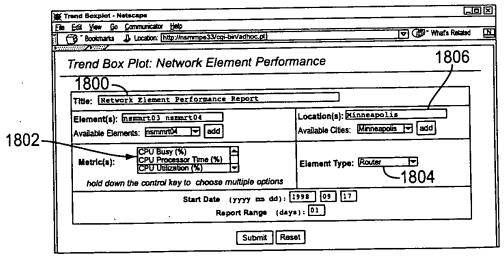


FIG. 18

| 1. The Object and Report columns list all the daily batch report types required |
|---|
| The total number of daily batch reports is listed in the column Batch Report OlyEach batch report is one of seven Generic Report Types detailed on sheet 2 |
| 4. Data collection requirements driven by each report are given for Snmp and Patrol Metrics |
| |
| |
| Generic Report Type |
| |
| Daily detail |
| Daily companson |
| Monthly trend |
| Daily exception spectrum |
| r • |
| Daily detail, n sub-objects |
| Monthly trend |
| Daily detail, n sub-objects |
| Monthly trend |
| Daily detail, n sub-objects : |
| Monthly trend |



| | Naming standard: | | | | | |
|---|------------------------------|---|----------------|------------------|-------------------|---|
| | < Description Units> | | | | | |
| | Database variable name | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Batch report requirements | y axis metric name | SNMP metrics | Patrol metrics | Patrol Collector | Max/Min Precision | |
| | | | | | | |
| Two router reports daily: | CpuBusy_Percent | busyPer | NA | NIA | | |
| One report daily, | ConRisy Percent | hisvPer | N/A | NIA | | |
| Two router trend reports daily | Coubusy Percent | busyPer | NIA | NIA | | |
| One report daily, showing exceptions for two routers | VN. | N. | NA | NA | · | |
| | | | | | | |
| Two router reports daily, each showing two interfaces | InterfaceUtilization_Percent | ifinOctects, irOutOctets, ifSpeed | NA | NA | | |
| Four interface reports daily | InterfaceUtilization Percent | ifinOctects, ifOutOctets, ifSpeed | NA | NA | | |
| Two router reports daily, each showing two interfaces | InterfaceUtilization_BPS | ifinOctets, ifOutOctets, ifSpeed | NA | NA | | |
| Four interface remorts daily | InterfaceUtilization BPS | ifinOctets, ifOutOctets, ifSpeed | NA | N/A | | |
| final anada particular no l | N/A | NA- | NIA | NIA | | Ē |
| | INA | INA | N/A | NIA | | É |
| | | | | | | |



| | | | - | | | - | - | |
|---------------------------------------|-----------------------------------|--|-------------|-------------|--------------|-----------|---------------|--------------|
| | | | | | | | 7. | 1 |
| Unix servers | CPU Utilization Daily Detail | Daily detail | x-y line % | | | hours | 77 | |
| | CPU Utilization Trend | Monthly trend | boxplot % | | | qays | 39 | <u> </u> |
| | Memory Utilization Daily Detail | | x-y line b | pytes (| 0-100 | hours | 24 [| - |
| | Memory Utilization Trend | p | poxplot | bytes | 0-100 | days | 30 | - |
| | Network I/O Daily Detail | Daily detail X | x-y line 9 | % | 0-100 | hours | 24 . | |
| | Network I/O Trend | P | boxplot 9 | % | 0-100 | days | 30 | - |
| | Disk Percent Busy Daily Detail | | x-y line | % | 0-100 | hours | 24 | _ |
| | Disk Percent Busy Trend | Monthly trend | boxplot 9 | % | 0-100 | days | 8 | - |
| | Unix Exceptions | Daily exception spectrum | = | elements | all elements | hours | 24 | - |
| | | ľ.∷ | | | | · | | |
| NT servers | CPU Utilization Daily Detail | Daily detail | x-y line | % | 0-100 | hours | 24 . | |
| | CPU Utilization Trend | Monthly trend | poxplot | % | 0-100 | days | 38 | |
| | | | x-y line | % or bytes | | hours | 24 | |
| | Memory Utilization Trend | P | poxplot 6 | | | days | 8 | |
| | Network I/O Daily Detail | Daily detailx | x-y line | packets/sec | | hours | 24 | |
| | Network I/O Trend | Monthly trend | poxplot | packets/sec | 0-100 | days | 8 | |
| | Disk Percent Busy Daily Detail | | x-y line | % | 0-100 | hours | 24 | _ |
| | Disk Percent Busy Trend | Monthly trend | boxplot | % | 0-100 | days | 30 | |
| | NT Exceptions | spectrum | spectrum | elements | all elements | hours | 24 | |
| Network Elements (all hardware) | Network Availability Bar Chart | Daily availability bar chart bar | bar | % | 0-100 | elements | all elements | |
| | Network Availahility Snectnim* | Daily availability spectrum spectrum | | elements | all elements | hours | 24 | 0 |
| Internat Services (fault momt) | Process Availability Bar Charl | Daily availability bar chart . : bar | | >° | 0-100 | processes | all processes | |
| ווונבווובו סבו גורכם (ומחיר ווואווור) | i loccoo ritaliability dai origit | יייייייייייייייייייייייייייייייייייייי | | | | | | |



| CPUCpuUtil VMCoil CPUCpuUtil VMCoil MEMFreeMem VMCoil MEMFreeMem VMCoil MEMFreeMem VMCoil NETPacketsin, NETPacketsOut NETCoil NETPacketsin, NETPacketsOut NETCoil NETPacketsin, NETPacketsOut NETCoil NETPacketsin, NETPacketsOut NETCoil NA NIA MEMMemoryCoil MEMmemAvailableBytes MEMMemoryCoil MEMmemAvailableBytes MEMMemoryCoil NETriiPcktsPerSec NETNetworkInterfaceCoil NETriiPcktsPerSec NETNetworkInterfaceCoil NET NIA | | 111 | 1-014 | מאוט ה החוו |
|--|-----|-----------------------------|-------------------------|---------------|
| CPUCpuUtil WMCall MEMFreeMem WMCall MEMFreeMem WMCall NETPacketsIn, NETPacketsOut NETColl NETPacketsIn, NETPacketsOut NETColl DSKPercentBusy NIA | | N/A CPUCpuUtil | VMColl | ##:#-Moru |
| MEMFreeMem MEMFreeMem METPacketsOut WMColl NETPacketsIn, NETPacketsOut NETColl NETPacketsIn, NETPacketsOut NETColl NETPacketsIn, NETPacketsOut NETColl NETPacketsIn, NETPacketsOut NETColl DSKPercentBusy NIA | _ | CPUCpuUtil | VMColl | 0,100 - #:## |
| MEMFreeMem NETPacketsIn, NETPacketsOut NETColl NETPacketsIn, NETPacketsOut NETColl DSKPercentBusy NIA NIA NEMmemAvailableBytes MEMMemoryColl NETniPcktsPerSec NETNetworkInterfaceColl PDpdDiskTimePercent PDPhysicalDiskColl NIA | I ⇒ | MEMFreeMem | VMColl | ##:#-+10 |
| NETPacketsIn, NETPacketsOut NETColl NETPacketsIn, NETPacketsOut NETColl DSKPercentBusy N/A N/A N/A NETMIEMETAVAIIBABENCENT CPUProcessorColl CPUprcrProcessorTimePercent CPUProcessorColl MEMmemAvailableBytes MEMMemoryColl NETNiPcktsPerSec NETNetworkInterfaceColl PDpdDiskTimePercent PDPhysicalDiskColl PDpdDiskTimePercent PDPhysicalDiskColl N/A | 1- | MEMFreeMem | VMColi | ###+-+10 |
| DSKPercentBusy N/A N/A DSKPercentBusy N/A N/A CPUprocProcessorTimePercent CPUProcessorColl CPUprocProcessorTimePercent CPUProcessorColl MEMmemAvailableBytes MEMMemoryColl MEMmemAvailableBytes MEMMemoryColl NETniPcktsPerSec NETNetworkInterfaceColl NETniPcktsPerSec NETNetworkInterfaceColl PDpdDiskTimePercent PDPhysicalDiskColl PDpdDiskTimePercent PDPhysicalDiskColl N/A N/A N/A N/A N/A N/A N/A N/ | | NETPacketsin, NETPacketsOut | NETColl | #### - +/0 |
| DSKPercentBusy NIA NIA CPUprcrProcessorTimePercent CPUProcessorColl CPUprcrProcessorTimePercent CPUProcessorColl CPUprcrProcessorTimePercent CPUProcessorColl MEMMemAvailableBytes MEMMemoryColl MEMMemAvailableBytes MEMMemoryColl NETniPcktsPerSec NETNetworkInterfaceColl NETniPcktsPerSec NETNetworkInterfaceColl PDpdDiskTimePercent PDPhysicalDiskColl NIA NIA NIA NIA NIA NIA NIA NI | | NETPacketsin, NETPacketsOut | Netcoil | ##:#-+/0 |
| DSKPercentBusy N/A N/A N/A N/A CPUprcrProcessorTimePercent CPUProcessorColl CPUprcrProcessorTimePercent CPUProcessorColl MEMmemAvailableBytes MEMMemoryColl METniPcktsPerSec NETNetworkInterfaceColl NETniPcktsPerSec NETNetworkInterfaceColl NETniPcktsPerSec NETNetworkInterfaceColl NDpdDiskTimePercent PDPhysicalDiskColl PDpdDiskTimePercent PDPhysicalDiskColl N/A N/A N/A N/A N/A N/A N/A N/ | | | | 0/100 - #:### |
| N/A CPUprcrProcessorTimePercent CPUProcessorColl CPUprcrProcessorTimePercent CPUProcessorColl MEMmemAvailableBytes MEMMemoryColl METniPcktsPerSec NETNetworkInterfaceColl NETniPcktsPerSec NETNetworkInterfaceColl NETniPcktsPerSec NETNetworkInterfaceColl NPDpdDiskTimePercent PDPhysicalDiskColl PDpdDiskTimePercent PDPhysicalDiskColl N/A N/A N/A N/A N/A N/A N/A N/ | | | | 0/100 - #:## |
| CPUprcrProcessorTimePercent CPUProcessorColl CPUprcrProcessorTimePercent CPUProcessorColl MEMmemAvailableBytes MEMMemoryColl NET niPcktsPerSec NETNetworkInterfaceColl PDpdDiskTimePercent PDPhysicalDiskColl NIA | | | NIA | |
| CPUprorProcessorTimePercent CPUProcessorColl CPUprorProcessorTimePercent CPUProcessorColl MEMmemAvailableBytes MEMMemonyColl NETniPcktsPerSec NETNetworkInterfaceColl NETniPcktsPerSec NETNetworkInterfaceColl PDpdDiskTimePercent PDPhysicalDiskColl N/A | | | | |
| CPUprocessorTimePercent CPUProcessorColl MEMmemAvailableBytes MEMMemoryColl NETniPcktsPerSec NETNetworkInterfaceColl NETniPcktsPerSec NETNetworkInterfaceColl PDpdDiskTimePercent PDPhysicalDiskColl N/A | | CPUprcrProcessorTimePercent | CPUProcessorColl | #:#-001/0 |
| MEMmemAvailableBytes MEMMemoryColl MEMmemAvailableBytes MEMMemoryColl NETniPcktsPerSec NETNetworkInterfaceColl NETniPcktsPerSec NETNetworkInterfaceColl PDpdDiskTimePercent PDPhysicalDiskColl 0 N/A | | CPUprcrProcessorTimePercent | CPUProcessorColl | ###- 001/0 |
| MEMmemAvailableBytes MEMMemoryColl NETniPcktsPerSec NETNetworkInterfaceColl NETniPcktsPerSec NETNetworkInterfaceColl PDpdDiskTimePercent PDPhysicalDiskColl 0 PDpdDiskTimePercent PDPhysicalDiskColl 0 N/A | | MEMmemAvailableBytes | MEMMemoryColl | #### + +/0 |
| NETniPcktsPerSec NETNetworkInterfaceColl PDpdDiskTimePercent PDPhysicalDiskColl 0 PDpdDiskTimePercent PDPhysicalDiskColl 0 N/A | | MEMmemAvailableBytes | MEMMemoryColl | ###-+10 |
| NETniPcktsPerSec NETNetworkInterfaceColl PDpdDiskTimePercent PDPhysicalDiskColl 0 N/A | | NETniPcktsPerSec | NETNetworkinterfaceColl | ####-+10 |
| PDpdDiskTimePercent PDPhysicalDiskColl N/A | _ | NETniPcktsPerSec | NETNetworkInterfaceColl | ####-+10 |
| PDpdDiskTimePercent PDPhysicalDiskColl N/A N/A N/A N/A N/A N/A N/A N | | PDpdDisk TimePercent | PDPhysicalDiskColl | 0/100 - #:### |
| N/A | | PDpdDiskTimePercent | PDPhysicalDiskColl | 0/100 - #:## |
| N/A N/A N/A N/A N/A | | | N/A | NA |
| N/A N/A | | | N/A | N/A |
| AM | | | N/A | NA |
| 1 1 1 1 1 | • | NIA NIA | NA | NA |



| | | | | • | | | | <u> </u> | | | | | |
|---|--|------------------------------------|--|----------------------------|---------------------------------|--------------------------|----------------------------------|---------------------------|----------------------------------|---------------------------|----------------------------------|---------------------------|-------|
| | ? - | | | | | | | | | | | | 9 |
| 76 | 1,7 | all services | 24 | NA | | | | | | | | | Total |
| raino d | Signi | services | hours | ΝΑ | | | | | | | | | |
| adagooda jo | all pilocesses | 0-100 | all services | VIN | 0-max value | 0-max value | 0-max value | 0-max value | 0-max value | 0-max value | 0-max value | 0-max value | |
| 20000000 | JIOCESSES | <i>‰</i> | services | N. | seconds | seconds | seconds | seconds | seconds | seconds | seconds | seconds | |
| an aposes | Specurum | par | spectrum | iext Text | x y line | boxplot | x-y line | boxplot | x-y line | boxplot | x-y line | boxplot | |
| · · · · · · · · · · · · · · · · · · · | Daily availability spectrum spectrum | Daily availability bar chart - bar | Daily availability spectrum . Spectrum | Textual list of all events | Daily detail | Monthly trend | Daily detail | Monthly trend | Daily detail | Monthly trend | Daily detail | Monthly trend | |
| • | Process Availability Spectrum* | Service Availability Bar Chart | Service Availability Spectrum* | Daily Exception Report | FTP Response Time Daily Detail* | FTP Response Time Trend* | SMTP Response Time Daily Detail* | SMTP Response Time Trend* | NNTP Response Time Daily Detail* | NNTP Response Time Trend* | HTTP Response Time Daily Detail* | HTTP Response Time Trend* | |
| t: | | | | All objects (fault momt) | | | | | | | | | |

FIG. 19E



| Ine report showing 5 ISP and | N VIN | | N/A | NA | N/A | |
|------------------------------|-------------------------------|----|------------------|-------------|-----|---|
| | N | | NA | NA | N/A | |
| : · . : | NA | | N/A | NA | € | |
| <u> </u> | | NA | NA | NA | NA | • |
| | FipResponseTime_Seconds N/A | | ftpResponse Time | ftpMonitor | | |
| | FloResponse Time Seconds NIA | | ftpResponseTime | fpMonitor | | |
| | SmtoResponse Time Seconds NVA | | smtpResponseTime | smtpMonitor | • | |
| | SmtbResponseTime Seconds NIA | A | smpResponseTime | smtpMonitor | | |
| | NhthResponseTime Seconds NVA | A | nntpResponseTime | nntpMonitor | | |
| | NutriResponseTime Seconds NIA | A | nntpResponseTime | nntpMonitor | | |
| | IHITA Seconds INIA | W. | httpResponseTime | httpMonitor | | |
| One report daily | | A | httpResponseTime | httpMonitor | | |
| | | | | | | |
| | | | | | - | |
| | | | | | | |

FIG. 19F



| NOTES | | - | | | | T |
|------------------------------------|-------------------------------------|---|--------------------------------------|--------------------|-----------|--------------|
| 1. "Object" may refer to an elemen | to an element, process, or service. | ervice. | | | | |
| | Graph Type Description | iption | Scope | X-axis | | Y-axis |
| | | | | Units | Range | Units |
| Daily Detail | XY line graph | Shows all samples of a single metric from a single XY line graph object over one day | 1 object, 1 metric | Hours& minutes | 24 hours | Metric value |
| , N Sub-objects | XY line graph | Shows all samples of multiple metrics from a single object over one day | n objects, 1 metric | Hours & minutes | 24 hours | Metric value |
| | Boxplot | Compares distributions of a single metric across multiple objects for one day | n objects, 1 metric | Objects | n objects | Metric value |
| Monthly Trend | Boxplot | Shows changes in distributions of a single metric over one month | 1 object, 1 metric | Days | 30 days | Metric value |
| ty Bar Chart | Bar Graph | Compares percent availability for multiple services or objects for one day | n objects, 1 availability Objects | Objects | n objects | Percent |
| Daily Exception Spectrum | Spectrum | Shows exceptions for multiple objects as points over time. | n objects, n exceptions | Hours & minutes | 24 hours | Objects |
| Daily Exception Text Report | Text List | Text list of all events over one day, with columns for date-time, event string, code, and severity. | n objects, n exceptions | NA | NIA | NA |
| | Spectrum | Shows up/down status as a continuous color-coded lineover time: red=down, green=up. | n objects, 1 availability | Hours & minutes | 24 hours | Objects |

MAY 0 7 2004 E

| rotice 4th menu choice 5th menu choice 6th menu choice 7th menu choice Metrics(s) all yesterday 1 rep celement location? start date? days? VIA rep celement location? start date? days? Stemice VIA rep celement location? start date? days? Stemice VIA rep celement location? start date? days? Stemice VIA rep celement location? start date? days? Cou Utiliza rep celement location? start date? days? Interface I rep celement location? start date? Cays? Interface I rep celement location? start date? Cays? Interface I rep celement location? start date? Cays? Interface I rep celement location? Cays? Cou Utiliza rep celement location? Cays? Cays? | choice 7th menu choice Service> <pre><pre><pre><pre><pre><pre><pre><pre></pre></pre></pre></pre></pre></pre></pre></pre> | Metrics(s) NA NA NA NA NA Opu Utilization (busyper) Cpu Utilization (fusyper) Interface Utilization (fin/OutOctects) Interface Utilization (fin/OutOctects) |
|--|---|--|
| | Services (virstance) | N/A N/A N/A N/A N/A N/A N/A Cpu Utilization (busyper) Cpu Utilization (busyper) Interface Utilization (iffn/OutOclects) Interface Itilization (iffn/OutOclects) |
| yesterday <start date=""> <start date=""></start></start></start></start></start></start></start></start></start></start></start></start></start></start></start> | | N/A N/A N/A N/A N/A N/A Cou Utilization (busyper) Cou Utilization (busyper) Interface Utilization (fifty/OutOctects) Interface Utilization (fifty/OutOctects) Interface Utilization (fifty/OutOctects) |
| start date> | | N/A N/A N/A N/A N/A Cou Utilization (busyper) Cou Utilization (busyper) Interface Utilization (iffn/OutOclects) Interface Itilization (iffn/OutOclects) |
| start date> | | N/A N/A N/A N/A N/A N/A Cou Utilization (busyper) Cou Utilization (busyper) Interface Utilization (fifty/OutOctects) Interface Utilization (fifty/OutOctects) Interface Utilization (fifty/OutOctects) |
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FIG. 21



| SNMPIPATROI METRICS | DESCRIPTION | PLATFORMS | UNITS | |
|-----------------------------|---|------------------|--------------------|---------------|
| | Provides the percent of CPU usage over the first 5 second period in the | | | - |
| busyPer | scheduler. | Router | percentage | |
| ifInOctate | The total number of octets received on the interface including faming characters. | Router Interface | octets | |
| | The total number of octets transmitted out of the interface, including framing | | | |
| ifOutOctcets | characters. | Router Interface | octets | |
| | An estimate of the interface's current bandwidth in bits per second. For | | | |
| | interfaces which do not vary in bandwidth or for those where no accurate | | | |
| ifSpeed | estimation can be made, this object should contain the nominal bandwidth. | Router Interface | | |
| CPUCoultil | Displays the percentage of CPU utilization. | CNIX | percentage | |
| WEWFreeMem | Displays the number of pages of memory available. | NIX | pages | |
| NETPacketsIn | Displays the total number of incoming packets within a sample interval. | NIX | packets | |
| NETPacketsOut | Displays the total number of outgoing packets within a sample interval. | XINO | packets | |
| | Displays the percentage of time that the device is busy servicing a transfer | | - | |
| DSKPercentBusy | request. | NIX | percentage | |
| | Displays a percentage of the elapsed time that a processor is busy | ļ | | |
| CPUprcrProcessorTimePercent | executing a non-idle thread. | 2 | percentage | |
| | Displays the size of the virtual memory currently on the zeroed, free, and | . ! | • | |
| MEMmemAvailableBytes | standby memory lists. | IN. | megabytes | |
| NETniPcktsPerSec | Displays the rate that the packets are sent and received on the network. | Z | packets per second | |
| | Displays the percentage of elapsed time that the disk spends servicing read | Ŀ | | |
| PDpdDiskTimePercent | or write requests. | 2 | percentage | |
| | | | | |
| | | | | |
| | | | | |

FIG. 22



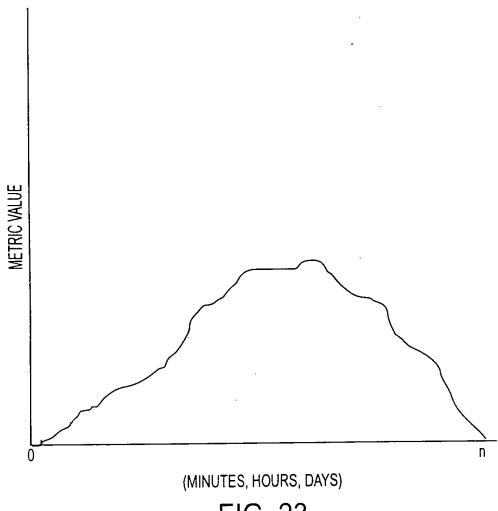
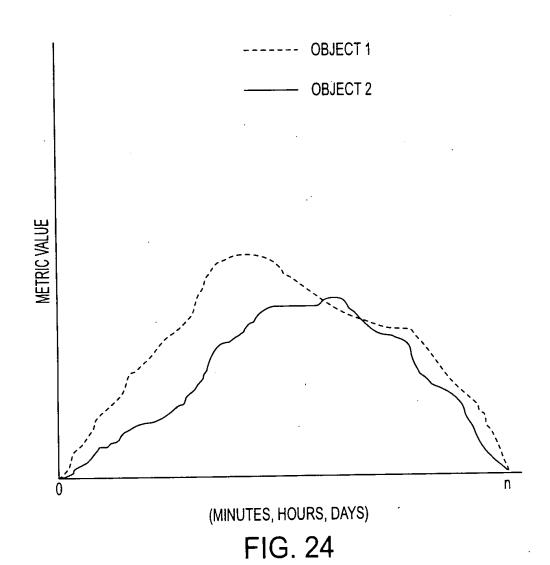
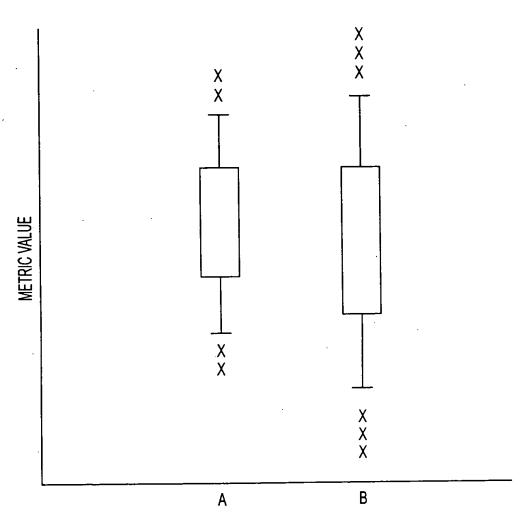


FIG. 23





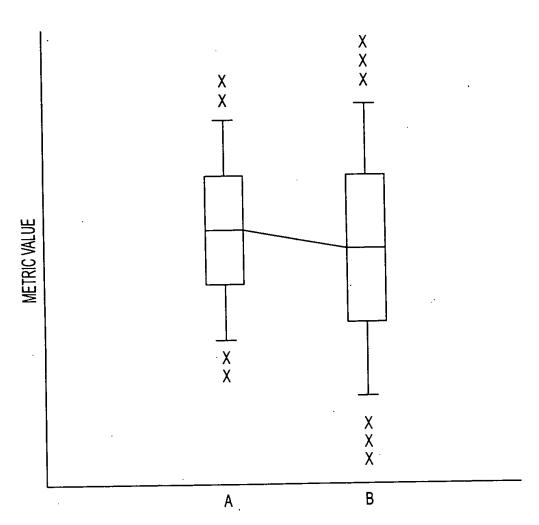




(ELEMENTS, INSTANCES)

FIG. 25





(DAYS, WEEKS, MONTHS)

FIG. 26



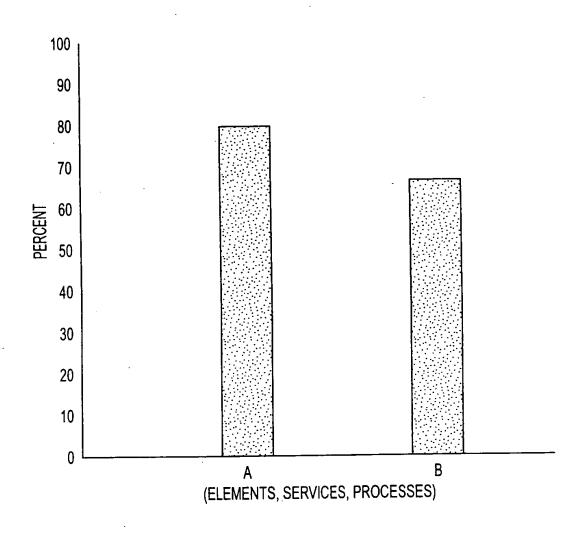


FIG. 27



ELEMENTA XXXOOXXXXXXXXOOXXXXXXXXOOOOXXX 71%

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 (HOURS)

FIG. 28



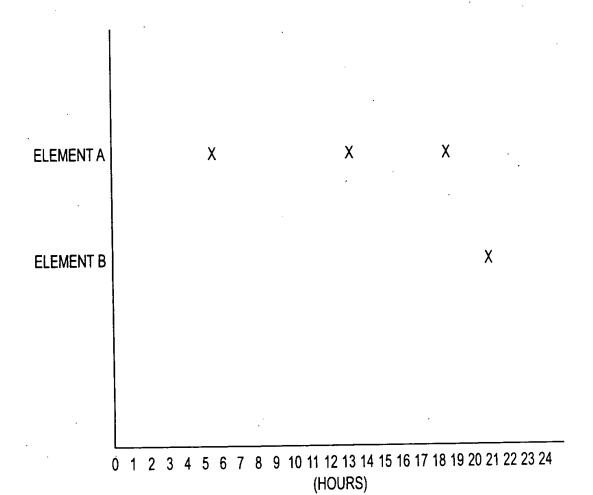


FIG. 29



| Date-Time | ElementEvent string | | | Duration | Severity |
|--|----------------------|-------------------------------|--------------------------|--------------------------------------|----------|
| 01/12/1998 06:34:12 Critical | 1:12 nsmmws16 | | CPU Utilization over 80% | | • |
| 01/12/1998 08:01:23 01/12/1998 16:54:52 | nsmmws09 twmmnt02 | Host down FTP service down | | 3:24:43 Critical 0:19:42 Critical | |

FIG. 30



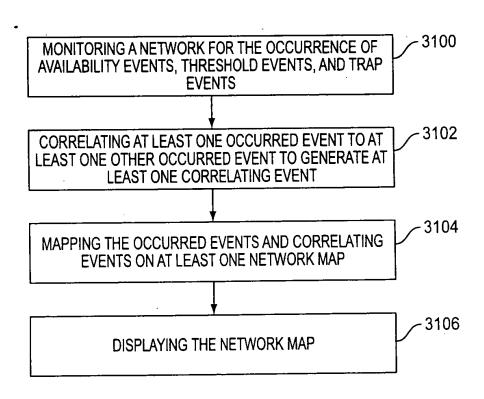
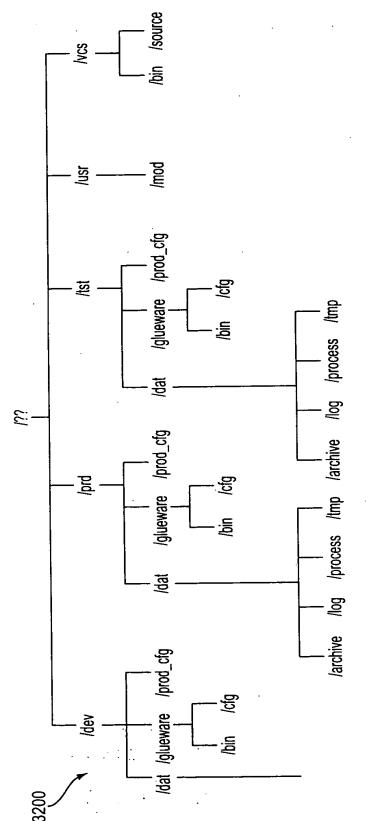


FIG. 31





CURRENT SETTINGS/VALID VALUES
Directory structure will be stored on ucmmfs02
The directory /sa will be the mount point to
nsmmws09, nsmmws16, and twmmdb02
Files owned by with group of twsa

FIG. 32